

## 4-N-substituted sialic acids and their sialosides

**Description of Technology:** Sialic acids are a group of acidic 9 carbon-keto-sugars found glycosidically linked to other sugars in glycoproteins and glycolipids which serve as receptor determinants for viruses, toxins, adhesion proteins, antibodies and lectins. The design of synthetic sialosides and their analogs is of pharmaceutical interest. This invention provides novel azide, amino and acylamino group containing sialosides, a process for their preparation, and a method for their use in inhibiting influenza sialidase activity.

## **Patent Listing:**

1. **US Patent No.** 5,674,988, Issued on October 7, 1997, "4-N-substituted sialic acids and their sialoisides."

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Market Potential: The 4-amino- and -guanidino-2,3-dehydrosialic acids have recently been shown to be extremely potent inhibitors of the influenza virus neuraminidase and may become useful as an anti vital drug. The high binding potencies of these unnatural compounds have been shown to arise from the electrostatic interaction between the 4-amino or guanidino groups of the dehydrosialic acids and the carboxyl residues at the active site of the neuraminidase. Such interaction should also be possible in ketosidically linked sialosides that represent the terminal carbohydrate structures of glycoproteins and glycolipids (M. von Itzstein et al., Nature, 418-423 (1993)).

## **Benefits:**

- High binding potencies.
- Extremely potent inhibitor of the influenza virus neuraminidase.

## **Applications:**

Anti-viral drugs.